

## LOS ALAMOS COUNTY PRELIMINARY DESIGNATION DOCUMENT

Designation Analysis in Response to Petition by Amigos Bravos for a Determination that Storm Water Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit

### I. SUMMARY OF PETITION AND REGION 6 DETERMINATION

On June 30, 2014, Amigos Bravos, a river conservation organization in New Mexico, petitioned the Regional Administrator of EPA Region 6 (EPA) for a "determination, pursuant to 40 CFR. 122.26(a)(9)(i)(D) that non-de minimis, currently non NPDES permitted storm water discharges in Los Alamos County are contributing to violations of water quality standards in certain impaired waters throughout the area, and therefore require a National Pollutant Discharge Elimination System (NPDES) permit pursuant to section 402(p) of the Clean Water act and/or designation as a municipal separate storm sewer system " *A Petition by Amigos Bravos for a Determination that Storm Water Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit* ("the Petition").

The Petition alleges that urban storm water pollution from Los Alamos County sites, particularly urban storm water runoff from developed areas at Los Alamos National Laboratory (LANL), the Los Alamos Townsite, and the community of White Rock Canyon is contributing to violations of New Mexico state water quality standards (WQS), including state WQS for PCBs, copper, zinc and nickel, and that as a result, these sites should be covered by an NPDES permit. 40 CFR 122.26(a)(9)(i)(D) provides that the EPA Regional Administrator may designate storm water discharges as requiring NPDES permit coverage if he determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a WQS or is a significant contributor of pollutants to waters of the U.S. In response to the Petition, Los Alamos County and LANL submitted additional information and data related to storm water discharges in Los Alamos County on November 4, 2014 and November 24, 2014, respectively. A summary breakdown of Petition allegations for which LANL and/or Los Alamos County provided additional information, along with EPA's preliminary response, is attached as Appendix 3 to this document.

After careful review of the Petition and the additional information provided by LANL and Los Alamos County, as well as review of the State of New Mexico's assessment of water quality in the area, EPA Region 6 has determined that discharges of storm water from municipal separate storm sewer systems (MS4s) on LANL property and urban portions of Los Alamos County has the potential to cause or contribute to violations of one or more New Mexico water quality standards. Runoff from urban areas in Los Alamos County and from developed areas of LANL contain pollutants for which the state of New Mexico has listed receiving waters as impaired in the State's CWA §303(d) list of impaired waters not fully supporting their designated beneficial uses. Under an NPDES permit, dischargers would be required to reduce pollutants in such discharges to the Maximum Extent Practicable and to address water quality impacts, thereby addressing EPA's concern that theses discharges are at least contributing to the associated water quality impairments, if not causing the impairments, and that they may also be causing or

contributing to exceedances of instream water quality standards for other pollutants for which the receiving waters are not yet listed as impaired. As a result, EPA has made a preliminary determination to designate the MS4s on LANL property and urban portions of Los Alamos County as storm water discharges requiring NPDES permit coverage pursuant to 40 CFR § 122.26(a)(9)(i)(A), 40 CFR 122.26(a)(9)(i)(D), and 122.32(a)(2).

This designation of regulated small MS4s requiring NPDES permit coverage applies to municipal separate storm sewer systems owned or operated by:

1. LANL including the Department of Energy (DOE) and Los Alamos National Security, LLC (LANS) located within Los Alamos County
2. Los Alamos County located within the Los Alamos and White Rock Urban Clusters, as defined by the latest decennial Census
3. New Mexico Department of Transportation (NMDOT) located within the Los Alamos and White Rock Urban Clusters, as defined by the latest decennial Census
4. NMDOT located within and interconnected with regulated LANL (DOE and LANS) storm sewer systems.

## II. BACKGROUND

As part of the Water Quality Act of 1987 (WQA), P.L. 100-4 (Feb. 4, 1987), Congress required EPA to establish permitting requirements for certain storm water discharges, including discharges from large and medium MS4s. (WQA § 405, codified as CWA § 402(p), 33 U.S.C. § 1342(p)). Congress also gave EPA authority to designate additional storm water discharges for permitting on a case-by-case basis. EPA Region 6, reacting to a petition under 40 CFR § 122.26(f)(2) and (4), has made a preliminary determination to designate certain MS4s in Los Alamos County pursuant to 40 CFR § 122.26(a)(9)(i)(A), 40 CFR 122.26(a)(9)(i)(D), and 122.32(a)(2).

### A. Current Status of MS4s on Los Alamos County under the NPDES Stormwater Regulations

There are currently no regulated MS4s<sup>1</sup> in Los Alamos County. EPA's Phase I storm water

---

<sup>1</sup> "Small MS4" is defined as all separate storm sewers that are:

- (i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.
- (ii) Not defined as "large" or "medium" municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.
- (iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

regulations (55 FR 47990, November 16, 1990) required NPDES permits for large and medium MS4s, as defined at 40 § CFR 122.26(b)(4) and (7). The regulations included a list of incorporated places (cities) and counties which qualified as large or medium MS4s and required an NPDES permit. (40 CFR § 122, Appendices F through I). No areas of Los Alamos County are qualified as medium or large MS4s under the Phase I regulations. Phase I also regulated discharges of storm water associated with industrial activity and Los Alamos National Laboratory individual storm water permit NM0030759 covers certain storm water discharges falling under the definition of “industrial activity” (40 CFR § 122.26(b)(14)). However, the majority of LANL is not considered “industrial activity.”

EPA’s Phase II storm water regulations (64 FR 68722, December 8, 1999) added a requirement for permitting of small MS4s that are either located in an “urbanized area” under the latest Decennial Census or otherwise designated by the NPDES permitting authority. 40 CFR § 122.32(a). Los Alamos County does not include any urbanized areas and thus was not automatically designated by rule as a small municipal separate storm sewer system requiring an NPDES storm water permit.

Los Alamos County has two designated “urban clusters,” based on the results of the 2010 census.<sup>2</sup> According to the 2010 Census, the county has a population of 17,950. A Census-designated urban cluster is similar to an urbanized area, but contains less than 50,000 population and is not automatically designated as needing an NPDES permit. The main population center for Los Alamos County is called the Los Alamos Townsite. The Townsite is a Census Designated Place (CDP) and according to the 2010 Census the population of the CDP was 12,019.<sup>3</sup> According to the 2010 Census, the density of the Los Alamos Townsite CDP is 1,078.7 persons per square mile. The other densely inhabited place in the County is the community of White Rock, which is also a CDP. According to the 2010 Census the population of White Rock Canyon is 5,725 and the density is 811.8 persons per square mile. White Rock has been designated as an “urban cluster,” based on the results of the 2010 census.<sup>4</sup>

## **B. Standard for Designation**

Statutory authority for case-by-case designations of discharges composed of storm water is provided by Clean Water Act §402(p)(2)(E) and §402(p)(6). Small MS4s may be designated for

---

40 CFR 122.26(b)(16).

<sup>2</sup> <http://www.census.gov/geo/reference/ua/urban-rural-2010.html>, For Census 2000, the definition of an “urban cluster” is identical to that of an “urbanized area” except that the population of a cluster is at least 2,500 people, but fewer than 50,000 people.”  
[.html](#)

<sup>3</sup> <http://quickfacts.census.gov/qfd/states/35/3542320.html>

<sup>4</sup> <http://quickfacts.census.gov/qfd/states/35/3584740.html>

NPDES permits pursuant to the following provisions of the storm water regulations:

- 40 CFR § 122.26(a)(9)(i)(C) -The EPA Regional Administrator determines that storm water controls are needed for the discharge based on wasteload allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutant(s) of concern.
- 40 CFR § 122.26(a)(9)(i)(D) – The EPA Regional Administrator, determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.
- Pursuant to 40 CFR §§ 122.26(a)(9)(i)(A), 122.32(a)(2) and 123.35(b)(1)(i), small MS4s may be designated based upon a determination that a stormwater discharge from the small MS4 "results in or has the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts."
- Pursuant to 40 CFR §122.26(f)(2) and (4), any person may petition the Director (in this case the Regional Administrator) to require a NPDES permit for any discharge composed entirely of storm water not statutorily exempt or to designate a MS4 to be regulated.

Note that unlike the Phase I and II automatic designations by rule, neither population nor population density is a mandatory criteria under any of the designation provisions.

In this case, EPA Region 6, reacting to a petition under 40 CFR §122.26(f)(2) and (4), has made a preliminary determination to designate certain MS4s in Los Alamos County pursuant to 40 CFR § 122.26(a)(9)(i)(A), 40 CFR 122.26(a)(9)(i)(D), and 122.32(a)(2).

### **C. General Characteristics of Stormwater Discharges from MS4s**

Discharges from MS4s are comprised primarily of urban storm water. Such discharges typically contain elevated concentrations of pollutants that collect on impervious surfaces, such as city streets, driveways, parking lots, and sidewalks. The first national assessment of urban runoff quality was undertaken for the *Nationwide Urban Runoff Program (NURP)* study in the late 1970s and early 1980s. Overall, data from the NURP study indicated that discharges from separate storm sewer systems draining runoff from residential, commercial, and light industrial areas carried more than 10 times the annual loadings of total suspended solids (TSS) than discharges from municipal sewage treatment plants that provide secondary treatment. The NURP study also indicated that runoff from residential and commercial areas carried somewhat higher annual loadings of chemical oxygen demand (COD), total lead, and total copper than effluent from secondary treatment plants, as well as high levels of bacteria during warm weather conditions. 65 Fed. Reg. at 68725. More recently, discharge monitoring data from medium and large MS4s has been compiled in the National Stormwater Quality Database (NSQD) (Pitt, et al. 2008). Although the NSQD data indicate significant variations in pollutant loadings among different land uses, the data affirm the significance of discharges from MS4s as contributors of

pollutants to waters of the United States. For example, the median TSS concentration for all samples was 62.0 mg/L, more than double the 30-day average limit of 30 mg/L for discharges from municipal sewage treatment plants that provide secondary treatment. The median fecal coliform concentration was 4300 mpn/100 mL, which exceeds the former National Recommended Water Quality Criteria (NRWQC) for bathing waters by an order of magnitude.

### III. THE PETITION

#### A. Los Alamos County

The Petition alleges that urban storm water pollution from Los Alamos County sites, particularly urban storm water runoff from developed areas at LANL, the Los Alamos Townsite, and the community of White Rock Canyon is contributing to violations of New Mexico state WQS, including state WQS for PCBs, copper, zinc and nickel, and that as a result, these sites should be covered by an NPDES permit. In support, the Petition cites the following factual information, which EPA has verified and accepts as undisputed.

Los Alamos County is located in north-central New Mexico, approximately 60 miles northeast of Albuquerque and 25 miles northwest of Santa Fe. The main population center is called the Los Alamos Townsite. The other densely inhabited place in the County is the community of White Rock. Los Alamos County is the governing body for both Los Alamos Townsite and White Rock. Los Alamos County is also home to the 36 square mile Los Alamos National Laboratory (LANL or the Laboratory).<sup>5,6</sup>

The Los Alamos Townsite and the urbanized areas of LANL sit on the Pajarito Plateau. The Pajarito Plateau consists of a series of finger-like mesas separated by deep east-to-west-oriented canyons cut by streams. Most Laboratory and community developments are confined to the mesa tops. Urban landscapes at the Townsite and at include parking lots, roads, and structures.

White Rock is located in eastern Los Alamos County, above and within approximately 0.75 miles of the Rio Grande River. Pajarito Canyon goes through White Rock on its way towards the Rio Grande. Canada del Buey goes along the northern part of White Rock.

LANL property contains all or parts of seven primary watersheds that drain directly into the Rio Grande. Listed from north to south, these watersheds are: Los Alamos, Sandia, Mortandad, Pajarito, Water, Ancho, and Chaquehui Canyons. The Los Alamos Townsite and the urbanized areas of LANL drain into five canyons: Los Alamos, Pueblo, Sandia, Bayo and Mortandad

---

<sup>5</sup> A Petition by Amigos Bravos for a Determination that Storm Water Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit

<sup>6</sup> Los Alamos National Laboratory, *Los Alamos National Laboratory Environmental Report 2012*, 1-1 and 1-2 (2012) (LA-UR-13-27065) (2012 Environmental Report).

Canyons. White Rock drains into Rio Grande.

## **B. Water Quality Impairments**

The Petition also provides a discussion of urban-related surface water pollution as it relates to the various Canyons draining to the Rio Grande. After checking this information against the Water Quality impairment information contained in the 2012-2014 State of New Mexico Clean Water Act 303(d)/305(b) 2014 Integrated Report [hereinafter “2012-2014 303d/305b Report”], with updates from the 2014-2016 State of New Mexico Clean Water Act §303(d)/305(b) Integrated Report [hereinafter “2014-2016 303d/305b Report”] and considering the additional information provided by LANL and Los Alamos County, EP finds the following.

Based on the 2012-2014 303d/305b Report, Los Alamos Canyon within LANL property is impaired for gross alpha, adjusted (a measurement of overall radioactivity and hereinafter referred to simply as “gross alpha”), PCBs, aluminum, copper.<sup>7</sup> However, based on the 2014-2016 303d/305b Report, copper has been removed from the probable causes of impairment list.<sup>8</sup> In addition, as stated in the Petition, New Mexico Environment Department (NMED) data show levels of PCBs in Los Alamos Canyon downgradient from most of the urbanized areas at LANL to be over 11,000 times greater than the New Mexico Human Health water quality criteria and 51 times greater than the New Mexico Wildlife Habitat water quality criteria.<sup>9</sup> Based on the 2012-2014 303d/305b Report, Sandia Canyon is impaired for PCBs, aluminum, copper, gross alpha, and mercury. However, based on the 2014-2016 303d/305b Report, Thallium has been added as a new impairment to the probable causes of impairment list. In addition, NMED data show levels of PCBs in Sandia Canyon below much of the urbanized areas at LANL to be over 14,000 times greater than the New Mexico Human Health water quality criteria and 66 times greater than the New Mexico Wildlife Habitat water quality criteria.

Based on the 2012-2014 303d/305b Report, Mortandad Canyon is impaired for aluminum, copper, gross alpha. However, based on the 2014-2016 303d/305b Report, PCBs have been added as a new impairment to the probable causes of impairment list.

Based on the 2012-2014 303d/305b Report, Pajarito Canyon is impaired for gross alpha, aluminum, PCBs, and copper. However, based on the 2014-2016 303d/305b Report, copper has been removed and arsenic, and selenium have been added as the new impairments to the

---

<sup>7</sup> State of New Mexico Water Quality Control Commission, *2012-2014 State of New Mexico Clean Water Act 303b/305b 2014 Integrated Report*, Appendix A (303d/305b Report).

<sup>8</sup> State of New Mexico Water Quality Control Commission, *2014-2016 State of New Mexico Clean Water Act 303b/305b 2014 Integrated Report*, Appendix A (303d/305b Report).

<sup>9</sup> NMED, *Pajarito Plateau Assessment for the 2010-2012 Integrated Report* data set with PCBs and map of sampling stations <http://www.nmenv.state.nm.us/swq/b/303d-305b/2010-2012/Pajarito/index.html> (Pajarito Plateau Study).

probable causes of impairment list. Note that the portion of Pajarito Canyon from the Rio Grande to the LANL boundary (which goes through White Rock) is not listed as impaired by NMED.

Based on the 2012-2014 303d/305b Report, Canada del Buey is impaired for PCBs, aluminum, and gross alpha for at least the portion within LANL. However, based on the 2014-2016 303d/305b Report, aluminum has been removed from the probable causes of impairment list. Note that the section from the LANL boundary to San Ildefonso Pueblo has not been assessed.

Based on both the 2012-2014 303d/305b and 2014-2016 303d/305b Report, Pueblo Canyon (Acid Canyon to headwaters) is impaired for gross alpha, PCBs, aluminum. NMED data show levels of PCBs in Pueblo Canyon right in the middle of the Los Alamos urbanized areas to be over 3,500 times greater than the New Mexico Human Health water quality criteria and 16 times greater than the New Mexico Wildlife Habitat water quality criteria.<sup>8</sup>

The Rio Grande (Cochiti Reservoir to San Ildefonso boundary) is listed as impaired for PCBs, turbidity, E.coli, and gross alpha. This is the downstream segment of the Rio Grande receiving most of the flows from the canyons in Los Alamos County.

Atmospheric deposition – toxics, inappropriate waste disposal, natural sources, watershed runoff following forest fire, post-development erosion and sedimentation and source unknown were listed as sources of impairment in the 2012-2014 303d/305b Report. However, in the 2014-2016 303d/305b Report, the NMED Surface Water Quality Bureau (SWQB) removed previously-reported probable source lists from the 2014-2016 303d/305b Report and they are replaced with "Source Unknown".

### **C. Cause of Water Quality Impairments**

The Petition alleges that available data and studies link the water quality impairment downgradient from the Pajarito Plateau to storm water runoff from urban areas. In support, the Petition states as follows:

LANL conducted two detailed studies of storm water runoff from the Pajarito Plateau. One study was on PCB contamination and the second was on metals contamination. In these studies, LANL collected samples from non-urban, non-laboratory influenced reference sites as well as from sites representing runoff from the urbanized areas of the Los Alamos Townsite. Neither the reference nor the urban sites were influenced by point source discharges from LANL's individual storm water permit. These studies show a significant contribution of both PCBs and metals from urban runoff on the Pajarito Plateau.<sup>4</sup>

The LANL PCB study found 40 of the 41 Los Alamos urban storm water samples were above the New Mexico human health water quality criteria for PCBs and 19 of the 41 Los Alamos urban storm water samples were above the New Mexico wildlife habitat water



quality criteria for PCBs. (PCB Report<sup>10</sup> at 62). The LANL report concluded that suspended PCBs carried by urban runoff from the Los Alamos Townsite were 10 to 200 times more enriched with PCBs than at non-urban influenced Pajarito Plateau sites. (PCB Report at 62).

In 2007, the NMED collected storm water samples from the county's municipal annex into a tributary that leads into Los Alamos Canyon containing PCBs as high as 255 times the state's PCB human health water quality criteria.<sup>11</sup> NMED sampling data in 2006 and 2007 show levels of PCBs in storm water draining off of urban areas in Los Alamos Townsite to be more than 34,000 times greater than the NM Human Health water quality criteria.<sup>4,6</sup>

A Laboratory study of metals contamination in storm water runoff from urban areas at LANL and the Los Alamos Townsite found exceedances of New Mexico water quality criteria for cadmium, copper, and zinc. (Metal Report<sup>12</sup> at page 31, 32 and 33). In addition, the LANL metals report demonstrated that values for copper, zinc and nickel in urban storm water runoff in Los Alamos County substantially exceeded non-urban influenced Pajarito Plateau storm water concentrations. (Metal Report at p 17, 37).<sup>4</sup>

As noted above, 2012-2014 303d/305b Report the State of New Mexico found that water quality in Sandia, Mortandad, Pajarito, and Pueblo Canyons is impaired because of urban-related causes such as impervious surfaces, parking lots, construction and development.<sup>5</sup> NMED data also shows substantial water quality impairment in Los Alamos Canyon downgradient from most of the urbanized areas at LANL.<sup>8</sup> Note that the 2014-2016 Report now lists the probable sources as "unknown."

The LANL studies of PCB and metal contaminated runoff tie these contaminants to the urban areas of the Pajarito Plateau. In LANL's 2013 request to EPA for alternative compliance with its Clean Water Act discharge permit for industrial storm water, the Laboratory argues that the cause of its exceedances of New Mexico water quality criteria for zinc and copper is urban runoff from sources such as motor oil accumulation on parking lots, brake pad and tire material released on pavement, galvanized fencing, culverts and other building materials.<sup>13</sup>

In their responses to the Petition, LANL and Los Alamos County dispute certain aspects of Petitioners' characterization of the information from the various LANL reports and the possible

<sup>10</sup> Los Alamos National Laboratory, Polychlorinated Biphenyls in Precipitation and Stormwater within the Upper Rio Grande Watershed 2 (May 2012) (LA-UR-12-1081) (PCB Report).

<sup>11</sup> New Mexico Environment Department, Press Release: Environment Department Issues Notice of Violation and Penalty to Los Alamos County for Allowing Discharge of PCBs into Canyon from County's Annex (December 15, 2009) (Press Release LA County Violations).

<sup>12</sup> Los Alamos National Laboratory, Background Metals Concentrations and Radioactivity in Storm Water on the Pajarito Plateau Northern New Mexico 2 (April 2013) (LA-UR-13-22841) (Metals Report).

<sup>13</sup> Alternative Compliance Request 2 at 31-2; Los Alamos National Laboratory, *Alternative Compliance Request for S-SMA-.25* 28 (April 2013) (Alternative Compliance Request .25).



sources of pollutants. For instance, both LANL and Los Alamos County state that although the PCB report identifies baseline values, it does not state that urban development in Los Alamos County is contributing large amounts of PCBs to receiving waters. Further, both LANL and Los Alamos County point out, as noted by EPA in Section III.B above, that in the 2014-2016 303d/305b Report NMED has removed the probable source lists and replaced them with "Source Unknown."

A more detailed explanation of Petition allegations, additional information provided by LANL and Los Alamos County, and EPA's preliminary response, is attached as Exhibit 3 to this document. Based on the agency's independent review of all available information, EPA finds that available information indicates the presence of pollutants associated with impairment in storm water discharges from MS4s on LANL property and urban portions of Los Alamos County. EPA further concludes these discharges may be causing or contributing to the impairments listed by the state.

### III. SCOPE OF PRELIMINARY DESIGNATION

In accordance with 40 CFR §122.26(a)(9)(i)(A) and (D) and §122.32(a)(2), small MS4s may be designated based upon a determination that a storm water discharge from the small MS4 results in or has the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts. 40 CFR §122.26(a)(9)(i)(D) allows for designation of a category of discharges within a geographic area, based upon a determination that the category "contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States."

This designation of regulated small municipal separate storm sewer systems requiring NPDES permit coverage applies to municipal separate storm sewer systems owned or operated by:

1. LANL including the Department of Energy (DOE) and Los Alamos National Security, LLC (LANS) located within Los Alamos County
2. Los Alamos County located within the Los Alamos and White Rock Urban Clusters, as defined by the latest decennial Census
3. New Mexico Department of Transportation (NMDOT) located within the Los Alamos and White Rock Urban Clusters, as defined by the latest decennial Census
4. NMDOT located within and interconnected with regulated LANL (DOE and LANS) storm sewer systems.

Alternatives considered, but rejected, were:

- Designation of all MS4s in the entire Los Alamos County – rejected due to the unintended consequence of including of municipal storm sewers operated by the National Park Service (Bandolier National Monument), Los Alamos County, and NMDOT in rural areas of the county without information to evaluate contribution to water quality impairments above background levels.

- Designation of MS4s in Los Alamos Urban Cluster and LANL only – rejected since receiving waters associated with White Rock Urban Cluster are also on the NMED CWA §303(d) list as impaired for pollutants associated with urban runoff. EPA does note that while Pajarito Canyon and Canada del Buey, are listed as impaired above White Rock, the portions immediately within White Rock are not. Canada del Buey within White Rock has not been assessed. The Rio Grande below White Rock is impaired. It appears that current growth is more likely to occur in the White Rock Urban Cluster, so post development controls would likely have more effect in preventing future impacts in this area. EPA also notes that Los Alamos County is the operator of the MS4s serving both Los Alamos and White Rock and the programs Los Alamos County established for one part of the county could simply be applied (modified as necessary) in both Urban Clusters.

#### **IV. EPA's PRELIMINARY DETERMINATION**

After analysis of the Petition, the additional information provided by LANL and Los Alamos County and of the State of New Mexico's assessment of water quality in the area, EPA Region 6 has determined the available data indicates that storm water discharges from MS4s on LANL property and urban portions of Los Alamos County contribute to violations of water quality standards or have the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts. As a result, Region 6 has made a preliminary determination to designate these storm water discharges as needing NPDES permit coverage pursuant to 40 CFR § 122.26(a)(9)(i)(A), 40 CFR 122.26(a)(9)(i)(D), and 122.32(a)(2).

##### **A. The Discharges Contribute to or have the Potential to Result in Exceedances of Water Quality Standards**

As noted in the Petition, the NMED's 2006 and 2007 data shows significant exceedances of the state's human health water quality criteria for PCBs. Additional exceedances of various state water quality standards – are identified in the state's 303d/305b 2012/2014 Report, which also cites storm water runoff as a major cause for the impairment to several water courses discharging into the Rio Grande. Though the state's 2014-2016 303d/305b Report documents the possible source of impairments as "unknown", there are many more exceedances of standards in the above referenced canyons adjacent to the Los Alamos County and LANL.

Further, as discussed above the LANL PCB and metals reports, as well as its requests for alternative compliance under its individual NPDES storm water permit, indicate that many exceedances of water quality standards at the Laboratory are likely caused or contributed to by urban storm water discharges from Los Alamos County.

##### **B. Other Considerations**

EPA guidance at 40 C.F.R. § 123.35(b)(1)(ii) recommends consideration of various factors in

determining other significant water quality impacts with regard to a decision whether to designate an MS4 discharge for permitting, including discharge to sensitive waters, high growth or growth potential, high population density, contiguity to an urbanized area, significant contributor of pollutants to waters of the United States and ineffective protection of water quality by other programs. After careful consideration, EPA believes several of these factors weigh in favor of designation of storm water discharges from MS4s on LANL property and urban portions of Los Alamos County. The overall significance of the discharges from the Los Alamos County MS4s under discussion here as a contributor of pollutants to waters of the United States is discussed in section IV.A above. The remaining factors recommended for consideration under § 123.35(b)(1)(ii) are addressed below.

### **1. High Population Density/ High Growth**

The main population center for Los Alamos County is Los Alamos Townsite. The Townsite is a Census Designated Place (CDP) and according to the 2010 Census the population of the CDP is 12,019, with a density of 1,078.7 persons per square mile. The other densely inhabited place in the County is the community of White Rock, which is also a CDP. According to the 2010 Census the population of White Rock Canyon is 5,725 and the density is 811.8 persons per square mile. According to US Census Bureau, the 1990 population for Los Alamos was 18,115, the 2000 population was 18,342, the 2010 population was 17,950 and the 2013 estimated population for Los Alamos County was 17,798. In their comments on the Petition, Los Alamos County noted the population decline in recent years. Urbanized Areas, the basis for automatic designation of small MS4s must have a population density of 1,000 per square mile and a minimum population of 50,000. Accordingly, high population density and high growth were not major contributing factors in EPA's designation determination.

### **2. Sensitive Receiving Waters**

"Sensitive waters" would generally include public drinking water intakes and their designated protection areas; swimming beaches and waters in which swimming occurs; shellfish beds; state-designated Outstanding Resource Waters; National Marine Sanctuaries; waters within Federal, State and local parks; and waters containing threatened or endangered species and their habitat.

There are several sensitive waters downstream of the waters directly receiving runoff from the MS4s in Los Alamos County. For instance, as noted in the Petition, both Santa Fe's and Albuquerque's public water intakes are potentially affected by storm water runoff from Los Alamos County. The City of Santa Fe diverts water from the Rio Grande at its surface water

diversion, the Buckman Direct Diversion Project. Santa Fe shuts down its diversion whenever the City's monitor in Los Alamos and Pueblo Canyons detect storm water flows.<sup>141516</sup>

The Petition also alleges the following:

Farther downstream, the City of Albuquerque draws fifty percent or more of its drinking water from a surface diversion on the Rio Grande.<sup>17</sup> Consistent with this, the designated uses to be supported by New Mexico Water Quality Standards for the Rio Grande from the Cochiti Pueblo boundary to north of where runoff from Los Alamos' canyons enters the river include "primary contact" (that is, ingestion) and "public water supply."<sup>18</sup>

... [t]he Rio Grande feeds Cochiti Lake, which is a very popular swimming location in the summer for residents of Albuquerque and others, according to the Army Corps of Engineers. <http://krqe.com/2014/05/22/cochiti-lake-swim-beach-closed-for-memorial-day/>

...-[h]e Rio Grande is also adjacent to Bandelier National Monument and makes up more than four miles of this Federal park's eastern boundary.  
[https://www.lib.utexas.edu/maps/national\\_parks/bandelier\\_park97.pdf](https://www.lib.utexas.edu/maps/national_parks/bandelier_park97.pdf)

Finally, although they are not threatened or endangered, the Rio Grande provides habitat for reintroduced river otters, which have been observed below the point where the Los Alamos canyons intersect the river.<sup>4,19</sup>

EPA has confirmed the accuracy of this information and agrees with Petitioners that the sensitive nature of the affected waters weighs in favor of designation.

### **3. Storm water runoff from these MS4s is not effectively addressed by other water quality programs**

<sup>14</sup> LANL lies in the upper Rio Grande watershed denoted by U.S. Geological Survey (USGS) hydrologic unit codes 13020101 and 1301000. <http://water.usgs.gov/wsc/reg/13.html>.

<sup>15</sup>City of Santa Fe, *Buckman Direct Diversion Project Water Quality FAQs*, <http://bddproject.org/water-quality/water-quality-faqs/>.

<sup>16</sup> <http://bddproject.org/water-quality/early-notification-system/>

<sup>17</sup> Albuquerque Bernalillo County Water Utility Authority, *Water Resources Management Strategy Implementation 2024 Water Conservation Plan Goal and Program Update 2* (July 2013), [http://www.abcwua.org/uploads/files/2024\\_Water\\_Conservation\\_Plan\\_Update.pdf](http://www.abcwua.org/uploads/files/2024_Water_Conservation_Plan_Update.pdf) (Figure 1).

<sup>18</sup> 20.6.4.114.A NMAC.

<sup>19</sup> James N. Stuart, *River Otter Reintroduction Update* (Feb, 23, 2012) (presentation by NMG&F to N.M. Game Commission).

The individual NPDES storm water permits for LANL and Los Alamos County do not cover storm water discharges from the urbanized features that generate much of the pollution. LANL's several requests for alternative compliance under its individual storm water permit repeatedly state that there is no mechanism under the Laboratory's individual storm water permit to control the water quality exceedances found in its sampling because the pollution is caused by runoff from urban features. Because the stormwater runoff from urban features is not industrial activity, it is not covered by LANL's individual stormwater permit. NPDES coverage of stormwater runoff from MS4s on LANL property can address pollutants from current or past activities that are not considered industrial activity, but may be contributing to water quality impairment.

## V. DESIGNATION PROCEDURE

EPA plans to provide public notice of its "Preliminary Designation" (this document) and a 30 day public comment period via a Federal Register Notice in the near future specifically notifying the operators of the preliminarily-designated discharges. The Region will, after consideration of all public comments, issue a final designation decision. If the designation is confirmed, the Region will proceed with permitting process.

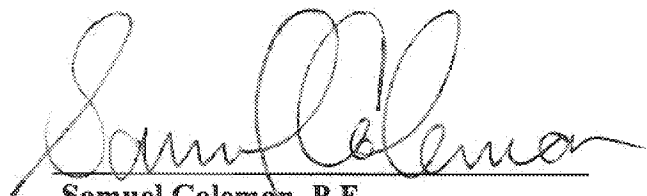
Since the facilities to be permitted in this case are Phase II MS4s, the regulations for Phase II MS4 permits at 40 CFR § 122.34 would apply. Permit requirements will also be developed to address the impacts of the discharges on the receiving and downstream waters.

## VI. CONCLUSION

For the reasons outlined above, EPA has determined that this Preliminary Designation is appropriate under the CWA and its implementing regulations. Upon final designation of the storm water discharges specified above for an NPDES permit, Region 6 will proceed with development and issuance of NPDES permits for the Los Alamos area.

3/6/2015

Dated:



**Samuel Coleman, P.E.**

*Acting Regional Administrator, Region 6*

## REFERENCES

1. A Petition by Amigos Bravos for a Determination that Storm Water Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit
2. Los Alamos National Laboratory individual stormwater permit NM0030759.
3. <http://quickfacts.census.gov/qfd/states/35/3542320.html>
4. <http://quickfacts.census.gov/qfd/states/35/3584740.html>
5. <http://www.census.gov/geo/reference/ua/urban-rural-2010.html>, For Census 2000, the definition of an "urban cluster" is identical to that of an "urbanized area" except that the population of a cluster is at least 2,500 people, but fewer than 50,000 people."
6. Los Alamos National Laboratory, *Los Alamos National Laboratory Environmental Report 2012*, 1-1 and 1-2 (2012) (LA-UR-13-27065) (2012 Environmental Report).
7. State of New Mexico Water Quality Control Commission, *2012-2014 State of New Mexico Clean Water Act 303b/305b 2014 Integrated Report*, Appendix A (303d/305b Report).
8. NMED, *Pajarito Plateau Assessment for the 2010-2012 Integrated Report* data set with PCBs and map of sampling stations <http://www.nmenv.state.nm.us/swqb/303d-305b/2010-2012/Pajarito/index.html> (Pajarito Plateau Study).
9. Alternative Compliance Request 2 at 31-2; Los Alamos National Laboratory, *Alternative Compliance Request for S-SMA-.25* 28 (April 2013) (Alternative Compliance Request .25).
10. Los Alamos National Laboratory, Polychlorinated Biphenyls in Precipitation and Stormwater within the Upper Rio Grande Watershed 2 (May 2012) (LA-UR-12-1081) (PCB Report).
11. New Mexico Environment Department, Press Release: Environment Department Issues Notice of Violation and Penalty to Los Alamos County for Allowing Discharge of PCBs into Canyon from County's Annex (December 15, 2009) (Press Release LA County Violations).
12. This NMED sampling data was obtained via an Inspection of Public Records Act request. The data is included in the Appendix.
13. Los Alamos National Laboratory, Background Metals Concentrations and Radioactivity

- in Storm Water on the Pajarito Plateau Northern New Mexico 2 (April 2013) (LA-UR-13-22841) (Metals Report).
14. LANL lies in the upper Rio Grande watershed denoted by U.S. Geological Survey (USGS) hydrologic unit codes 13020101 and 1301000.  
<http://water.usgs.gov/wsc/reg/13.html>.
  15. City of Santa Fe, *Buckman Direct Diversion Project Water Quality FAQs*,  
<http://bddproject.org/water-quality/water-quality-faqs/>.
  16. <http://bddproject.org/water-quality/early-notification-system/>
  17. Albuquerque Bernalillo County Water Utility Authority, *Water Resources Management Strategy Implementation 2024 Water Conservation Plan Goal and Program Update 2* (July 2013),  
[http://www.abcwua.org/uploads/files/2024\\_Water\\_Conservation\\_Plan\\_Update.pdf](http://www.abcwua.org/uploads/files/2024_Water_Conservation_Plan_Update.pdf)  
(Figure 1).
  18. 20.6.4.114.A NMAC.
  19. James N. Stuart, *River Otter Reintroduction Update* (Feb, 23, 2012) (presentation by NMG&F to N.M. Game Commission).